

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P837668

Luminaire Tested: HCSQ455D010-HM44560940-41SQC

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837668  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ455D010-HM44560940-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

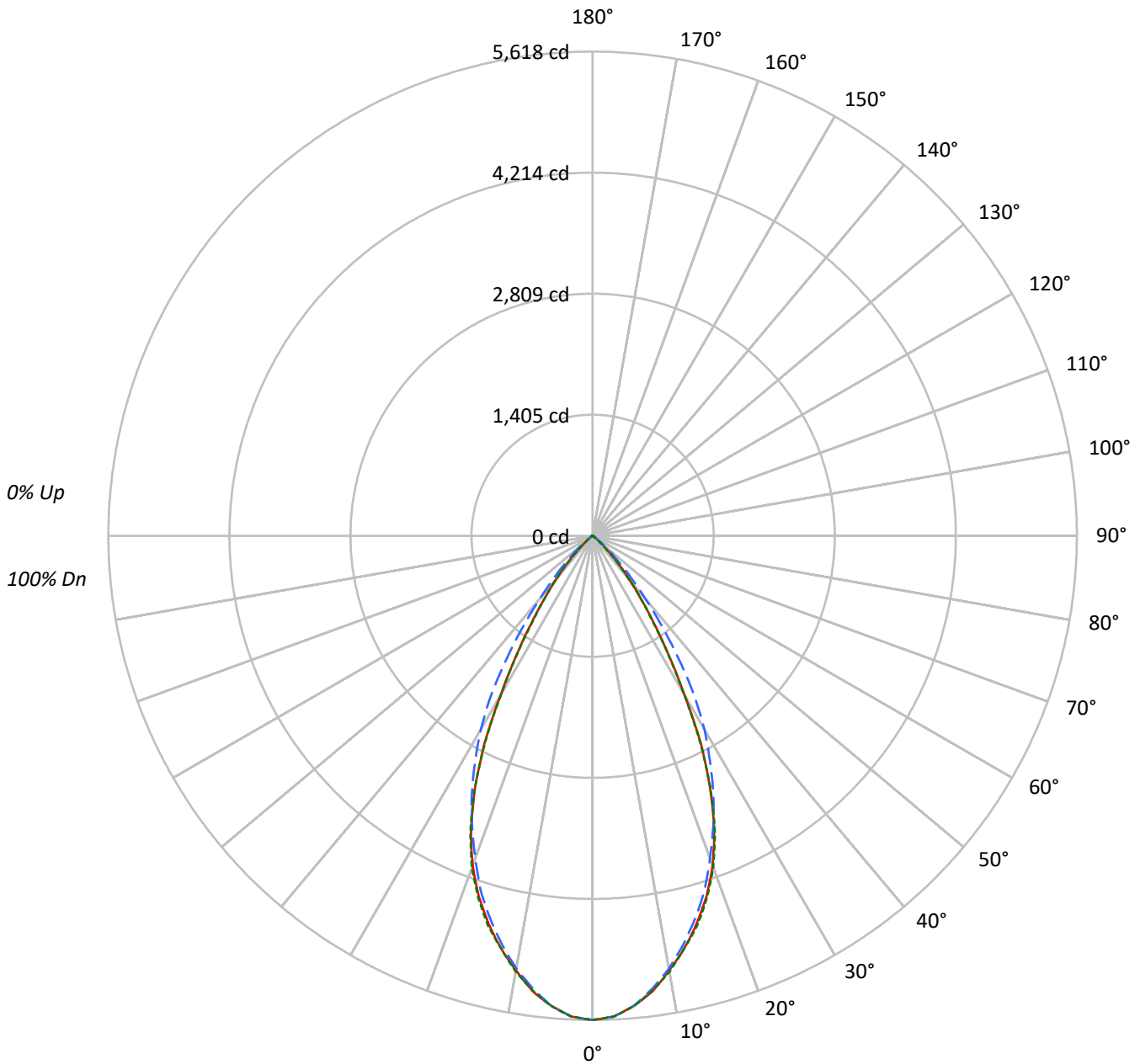
Lumens per Lamp: N/A  
Luminaire Lumens: 4540.2 lumens  
Efficiency: N/A  
Efficacy: 84.1 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 54  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20										
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94								
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87								
3	103	96	91	87	101	95	90	87	92	89	85	90	87	84	88	85	83	81								
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76								
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71								
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	70	68	66								
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62								
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	60	58								
9	76	67	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55								
10	73	63	57	53	72	63	57	53	62	57	53	61	56	53	60	56	53	52								

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	544266	544266	544266
5°	532594	532818	532818
10°	503762	501519	505110
15°	467425	461016	469932
20°	419587	410185	422175
25°	344625	354619	345843
30°	238222	289745	236443
35°	146694	204666	143181
40°	82757	119658	82175
45°	37799	59980	36237
50°	9615	24054	9962
55°	4628	7313	4239
60°	3100	2654	3526
65°	2613	2086	2613
70°	1926	1926	2578
75°	1722	1722	2545
80°	2566	2566	2566
85°	2556	5113	5113

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 59980 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	511.1	11.3
10°-20°	1290.7	28.4
20°-30°	1475.5	32.5
30°-40°	915.9	20.2
40°-50°	288.6	6.4
50°-60°	37.4	0.8
60°-70°	11.0	0.2
70°-80°	5.9	0.1
80°-90°	4.0	0.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3277.3	72.2
0°-40°	4193.2	92.4
0°-60°	4519.2	99.5
0°-90°	4540.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4540.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5618	5618	5618	5618	5618	
5°	5477	5472	5479	5475	5479	512
15°	4661	4626	4597	4626	4686	1300
25°	3224	3270	3318	3270	3236	1446
35°	1240	1432	1731	1398	1211	797
45°	276	331	438	333	264	233
55°	27	27	43	27	25	27
65°	11	11	9	11	11	11
75°	5	5	5	5	7	6
85°	2	5	5	5	5	3
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5618.2	5618.2	5618.2	5618.2	5618.2
2.5°	5584.0	5588.6	5584.0	5593.1	5584.0
5°	5476.8	5472.3	5479.1	5474.6	5479.1
7.5°	5330.9	5303.5	5301.3	5319.5	5321.8
10°	5121.1	5114.3	5098.3	5114.3	5134.8
12.5°	4906.8	4879.4	4856.6	4888.6	4906.8
15°	4660.6	4626.4	4596.7	4626.4	4685.6
17.5°	4389.2	4341.3	4316.3	4350.5	4407.5
20°	4070.0	4019.8	3978.8	4008.4	4095.1
22.5°	3686.9	3682.4	3655.0	3671.0	3702.9
25°	3224.1	3269.7	3317.6	3269.7	3235.5
27.5°	2715.6	2838.7	2948.2	2804.5	2695.1
30°	2129.6	2316.6	2590.2	2302.9	2113.7
32.5°	1646.2	1842.3	2191.2	1817.3	1632.6
35°	1240.4	1431.9	1730.6	1397.7	1210.7
37.5°	912.0	1055.7	1315.6	1046.6	912.0
40°	654.4	747.9	946.2	745.6	649.8
42.5°	453.7	515.3	661.2	510.7	440.1
45°	275.9	330.6	437.8	332.9	264.5
47.5°	145.9	209.8	275.9	200.7	145.9
50°	63.8	111.7	159.6	109.4	66.1
52.5°	34.2	47.9	86.6	47.9	34.2
55°	27.4	27.4	43.3	27.4	25.1
57.5°	20.5	20.5	22.8	20.5	20.5
60°	16.0	16.0	13.7	16.0	18.2
62.5°	13.7	13.7	11.4	13.7	13.7
65°	11.4	11.4	9.1	11.4	11.4
67.5°	9.1	9.1	9.1	9.1	9.1
70°	6.8	6.8	6.8	9.1	9.1
72.5°	6.8	6.8	6.8	6.8	6.8
75°	4.6	4.6	4.6	4.6	6.8
77.5°	4.6	4.6	4.6	4.6	4.6
80°	4.6	4.6	4.6	4.6	4.6
82.5°	2.3	4.6	4.6	4.6	4.6
85°	2.3	4.6	4.6	4.6	4.6
87.5°	2.3	2.3	4.6	4.6	4.6
90°	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



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Scaled Data Report







— 0°-180°    - - 45°-225°    - - - - 90°-270°

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